## 3.7 Hazards and Hazardous Materials

This section primarily analyzes the proposed project's and non-clustered scenario's potential impacts on impacts to hazards associated with wildfires, and mitigation measures as needed. A Fire Behavior Analysis (BEHAVE) that was prepared for the proposed project and is included in Appendix G of this Draft EIR.

# 3.7.1 Environmental Setting

## **Regulatory Framework**

### **Emergency Response**

California has developed an emergency response plan to coordinate emergency services provided by federal, state, and local government, and private agencies. Responding to hazardous materials incidents is one part of this plan. The plan is administered by the State Office of Emergency Services (OES), which coordinates the responses of other agencies, including the CalEPA, California Highway Patrol (CHP), CDFG, RWQCB, and the local fire department.

### California Building Code 2010, Chapter 7A

The purpose of Chapter 7A of the 2010 CBC is to establish minimum standards for the protection of life and property by increasing the ability of a building located in any Fire Hazard Severity Zone (FHSZ) within State Responsibility Areas (SRA) or any Wildland-Urban Interface Fire Area to resist the intrusion of flame or burning embers projected by a vegetation fire and contributes to a systematic reduction in conflagration losses. This chapter applies to building materials, systems and or assemblies used in the exterior design and construction of new buildings located within a Wildland-Urban Interface Fire Area.

#### Orange County Fire Authority - California Fire Code/International Fire Code

The 2010 California Fire Code (CFC), which is based on the 2009 International Fire Code (IFC) (previously the Uniform Fire Code), is enforced by OCFA. The CFC/IFC enforces state and locally adopted codes and standards. Through the CFC/IFC, the OCFA implements minimum requirements consistent with nationally recognized good practices to safeguard the health, safety, and general welfare of the community (OCFA, 2011). These CFC/IFC contain policies and standards that protects the public from the hazards of fire, explosion or dangerous conditions in existing buildings, structures, and premises, and to provide safety and assistance to fire fighters and emergency responders during emergency operations.

### **Orange County Vector Control District**

The Orange County Vector Control District (OCVCD) was established to protect the people of Orange County from vectors and vector-borne diseases and their effect on the environment. OCVCD's policy uses the least toxic vector control protocols utilizing non-chemical procedures such as source reduction and public education to reduce vector production (OCVCD, 2011). OCVCD works with stakeholder groups including property owners, municipalities, resource managers, and other interests to help ensure that vector production is avoided or minimized and

when necessary controlled to protect both human and environmental health. The OCVCD has established policies and programs to reduce vectors. The Vector Reduction Program (VRP) is based on land management practices that help reduce vector populations (OCVCD, 2011). This program aims to work with property owners and land managers to advise and assist them with information and specific Vector Reduction Guidelines that when implemented, would help reduce or eliminate significant vector breeding and harborage problems. These vector control polices help protect public health and are part of the District's Integrated Vector Management approach to mosquito and vector control.

### County of Orange General Plan

The following goals and policies of the General Plan pertain to hazards. For policies and goals related to fire and emergency protection see Section 3.12, *Public Services*, of this Draft EIR.

#### **Chapter 9. Safety Element**

- Goal 2: Minimize the effects of public safety hazards through implementation of appropriate regulations and standards which maximize protection of life and property.
- Objective 2.1 To create and maintain plans and programs which mitigate the effects of public safety hazards.
- Goal 3: Raise the awareness of Orange County residents, workers, and visitors to the potential threat of public safety hazards.

#### Foothill/Trabuco Specific Plan

The primary objectives related to hazards and hazardous materials identified in the F/TSP are the following:

#### 2.0 Specific Plan Objectives

- 3) Development Potential:
  - a) Provide some development potential (minimum of one dwelling) on each existing site except for extreme situations where public health and safety concerns would preclude development of a site.
  - b) Ensure that property owners have a right to develop each property through development regulations and guidelines which do not preclude development, but which do not necessarily guarantee that all existing building sites may be developed (i.e., where there are extreme public health and safety concerns) of that they may be further subdivided.

#### **III. Land Use Regulations**

Section III.E, *Landscaping and Fuel Modifications*, of the F/TSP provides standards and criteria necessary to achieve the goal and objective of the F/TSP with regard to fuel modification. These include submittal and approval of fuel modification/landscaping plans in order to reduce risk to structures and residents of the specific plan area from wildfires. The

plans are required to include all preliminary plan information, as well as a plant list, an irrigation plan and precise definition of fuel modification zone boundaries.

### County of Orange – Hazardous Mitigation Plan

The County of Orange Hazard Mitigation Plan provides a list of activities that may assist the County of Orange in reducing risk and preventing loss in future hazard events. The mitigation action plan addresses a multitude of hazardous issues, such as hazards related to flood/storm, wildland fire, earthquakes, dam failure, epidemic, urban fire, vector control, mud/landslide, tornado, and tsunami. The goal of the plan is to reduce impacts from hazards by increasing public awareness, documenting resources for risk reduction and loss-prevention, and identifying activities to guide the County towards building a safer, more sustainable community.

## **Existing Conditions**

#### Hazardous Materials

As stated in the NOP/Initial Study, the project site is currently undeveloped and is not included on a list of hazardous material sites (see Appendix A.1). Additionally, according to the Geotechnical Report (Appendix F), the Serrano Mine was located on the project site which mined for silica sand and clay. The report states that no activity has occurred since 1953 and information suggests that the material was processed off-site. Therefore, there is no indication that there are any remaining hazardous materials associated with this former mining activity. A Phase 1 Environmental Site Assessment was conducted in October 2011 (Appendix M), and concluded that there was no evidence of recognized hazards, and additional investigation was not recommended.

#### Areas of Fire Hazard

In Southern California, wildlands are typically characterized by highly flammable vegetation. The project site is located adjacent to the Cleveland National Forest, in an area that is subject to very high fire risk for wildland fire hazards. The project site has a history of wildland fire occurrences. In 1997, the Santiago Fire started along Santiago Canyon, west of Country Home Road, and burned to the ridgeline above Modjeska Canyon. The fire consumed 338 acres. This fire burned all of Saddle Crest; however, no homes were lost in this fire. In 2007, another Santiago Fire began at Santiago Canyon Road and Silverado Canyon Road. The fire consumed 28,517 acres. This fire resulted in eight residential structures being damaged and 14 being destroyed. An additional three outbuildings were damaged and 24 were destroyed. In addition, three commercial buildings were damaged and four were destroyed. No homes were lost on the properties immediately adjacent to the project site (Fire Safe Planning Solution, 2009).

The project site and vicinity is located within an area of very high fire risk for wildland fires due to the designated area in which the type and condition of vegetation, topography, fire history, and other relevant factors increase the possibility of uncontrollable wildland fire.

In the project area, the Limestone-Whiting Wilderness Park and the open space north of Portola Parkway between Portola Hills and Foothill Ranch, as well as a small portion extending south to

Portola Parkway northwest of the Foothill Ranch community have been identified as areas of fire hazard. **Figure 3.7-1** identifies the fire hazard area in the vicinity of the project site.

### **Emergency Response**

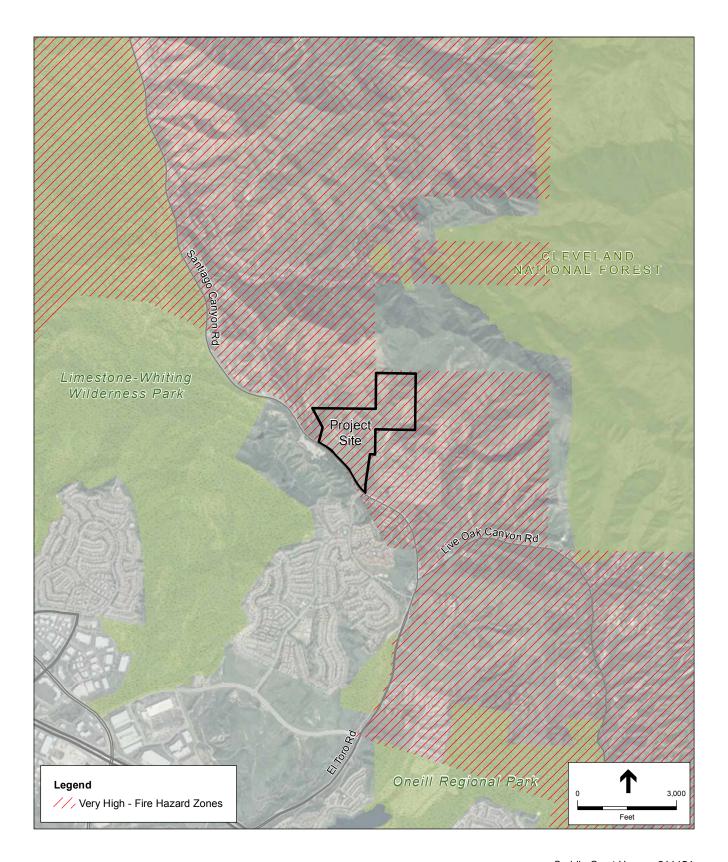
OCFA provides first response capabilities, if needed, for hazardous materials emergencies within the project area. The OCFA adopted response times for rural areas is 12 minutes for the first unit 80 percent of the time from receipt of call to on scene on emergencies. This makes travel time for rural areas 9 minutes, 40 seconds for the first unit, and travel time for the first paramedic unit 12 minutes, 30 seconds (receipt to on scene 15 minutes). A full fire assignment at rural standards from receipt of call to on scene is 20 minutes. All times are for 80 percent of calls.

The Orange County Emergency Response Plan details functional responsibilities and interactions of federal, state, and local governmental agencies, as well as private organizations in the event of natural and/or human-related disasters. The plan addresses County response to extraordinary emergency situations associated with natural disasters, technological incidents, and nuclear defense operations, with a focus on potentially large-scale disasters that can generate unique situations requiring unusual responses. Specifically, these situations include emergencies that threaten life and property, and potentially impact the well-being of a large number of people.

# 3.7.2 Thresholds of Significance

In accordance with Appendix G of the *CEQA Guidelines*, and the County of Orange Environmental Analysis Checklist, a project would result in potentially significant impacts if it would:

- Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials;
- Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment;
- Emit hazardous emissions or involve handling hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school;
- Be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would create a significant hazard to the public or the environment;
- Result in a safety hazard for people residing or working in the project area for a project located within an airport land use plan or, where such plan has not been adopted, be within two miles off a public airport use airport or public use airport;
- Be located within the vicinity of a private airstrip and result in a safety hazard for people residing or working in the project area;



- Impair implementation of, or physically interfere with, an adopted emergency response plan or emergency evacuation plan;
- Expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands; or
- Include a new or retrofitted storm water treatment control best management practice (BMP) (e.g., water quality treatment basin, constructed treatment wetlands), the operation of which would result in significant environmental effects (e.g., increased vectors and odors).

It was determined in the NOP/Initial Study (Appendix A.1) that implementation of the proposed project or the non-clustered scenario would have a less than significant impact related to hazardous materials or airport hazards. Additionally, no public comments were received during the 30-day NOP/Initial Study public scoping period that indicated new evidence to analyze these thresholds in this EIR. Therefore, no further analysis of that significance criterion is included in the EIR.

# 3.7.3 Methodology

This impact analysis focuses on potential effects of hazards related to wildland fires and its impacts to adopted emergency response plans and also to increased vectors/odors of the proposed project and the non-clustered scenario. The evaluation considers applicable regulations and guidelines.

# 3.7.4 Project Design Features

The following project design features have been included for the proposed project and some would also apply to the non-clustered scenario. All project design features will be included in the Mitigation Monitoring and Reporting Program and will be monitored to ensure completion, in the same manner as the project's mitigation measures.

- PDF-15 As determined in consultation with the Orange County Fire Authority, the project includes a mid-point flat recovery area for turn-around of fire apparatus on long cul-de-sacs to assure adequate ingress and egress during emergency events.
- PDF-16 The project includes a *Precise Fuel Modification Plan* that has been developed to provide a landscape transition area along the interface between residential development and adjacent open space to provide wildfire protection.
- PDF-17 Automatic fire sprinkler systems will be installed for all homes.
- PDF-18 The project has been designed with fire hydrants spaced at 300-foot intervals instead of the minimum 600-foot spacing required for homes with automatic fire sprinkler systems.

- PDF-19 The project includes a Fire Master Plan that has been approved by the Orange County Fire Authority providing enhanced construction features in certain areas adjacent to fuel modification zones. These include enhanced fire sprinkler systems and construction features per California Building Code Chapter 7A.
- PDF-20 In order to minimize project hazards relative to vector control and public health concerns, the water quality basin (dry extended detention basin) will be designed for a maximum 72-hour draw down period for retained runoff. The hydromodification basin will employ approved vector control treatment measures as specified in the California Department of Public Health's recommendations for best management practices for mosquito control in collaboration with the Orange County Vector Control District to mitigate potential vector issues.
- PDF-21 The project has been designed so each building site will accommodate three onsite parking spaces to minimize parking along roadways that could interfere with emergency vehicle access.
- PDF-22 The project has been designed to cluster homes into a single defensible location, creating a single line of defense around the community, which makes fire protection more effective.

## 3.7.5 Project Impacts

**Impact 3.7.1:** Impair or interfere with emergency response or evacuation plans.

**Significance Standard for Impact 3.7.1:** Would the proposed project impair the implementation of, or physically interfere with, an adopted emergency response plan or emergency evacuation plan?

# **Proposed Project**

The County has prepared an Emergency Plan to provide guidance for the County's response to emergency situations such as natural disasters, technological incidents, and national security emergencies. All new development must follow the County's emergency response and evacuation guidelines and be compatible with emergency evacuation routes. The proposed project is not expected to interfere with an adopted emergency response or evacuation plan, and would comply with the CBC, and OCFA's adopted Fire Code based on the CFC/IFC. Additionally, the proposed project would adhere to the goals and objectives of the General Plan's Safety Element discussed above, as it would minimize the effects of public safety hazards though the implementation of plans and programs which are discussed below in the form of mitigation measures and project design features.

The proposed project would involve the construction of new housing. The project would include construction of internal roads and turning lanes to access the project. The turning lanes would provide adequate access to the project from a traffic operations and safety standpoint as per Project Design Feature PDF-15 (RK Engineering Group, Inc., 2011). However, there is the potential that internal access interferes with emergency response abilities, resulting in potentially significant impacts.

The proposed project could result in short-term temporary impacts on street traffic adjacent to the proposed site during construction activities. Construction activities and staging would occur onsite. No roadway or lane closures would occur, and thus, would not interfere with any emergency response plans. However, the delivery of construction materials and equipment could impede access for emergency response vehicles. Any such impacts would be limited to the construction period and would affect only adjacent streets or intersections. The project site is located within an open space and undeveloped area with limited access points available. Access to the project site includes the Foothill Transportation Corridor, Santiago Canyon Road, Ridgeline Road, and Country Home Road, Construction activity could impede emergency access along these access points, resulting in a significant impact. However, project design features and mitigation measures would reduce impacts to emergency access including providing OCFA approved turnouts (PDF-15), designs to minimize parking along the roadways which could interfere with emergency vehicle access (PDF-21), providing OCFA advance notice of construction activities (MM 3.7-1), requiring emergency opening gates approved by OCFA (MM 3.7-3), and would requiring fire access roads to be completed prior to issuance of building permits (MM 3.7-4). As a result, the short-term impacts would not interfere with emergency response vehicles (e.g., fire, police, or ambulance).

**Impact Determination:** The proposed project would require temporary construction activities that could interfere with emergency response and evacuation. However, the project design features and mitigation measures would reduce impacts to emergency access including providing OCFA approved turnouts (PDF-15), designs to minimize parking along the roadways which could interfere with emergency vehicle access (PDF-21), providing OCFA advance notice of construction activities (MM 3.7-1), requiring emergency opening gates approved by OCFA (MM 3.7-3), and requiring fire access roads to be completed prior to issuance of building permits (MM 3.7-4).

#### Non-Clustered Scenario

Similar to that described above for the proposed project, the non-clustered scenario could interfere with current emergency and evacuation plans. The non-clustered scenario features homes in a sprawling layout with significant acreage of non-contiguous open space. This would result in more exposure to the wildland interface and create more pockets of internal vegetation (OCFA, 2010). Some of the homes in the non-clustered scenario would be located in a deep canyon with limited access, which would cause more exposure to the wildland fires. Therefore, due to the interspersed design of the non-clustered scenario, it would be more difficult to provide access for emergency response vehicles. The non-clustered scenario is located within an open space and undeveloped area with limited access points. However, the project design features and mitigation measures would reduce impacts to emergency access including providing OCFA approved turnouts (PDF-15), designs to minimize parking along the roadways which could interfere with emergency vehicle access (PDF-21), providing OCFA advance notice of construction activities (MM 3.7-1), requiring emergency opening gates approved by OCFA (MM 3.7-3), and would require fire access roads to be completed prior to issuance of building permits (MM 3.7-4). As a result, the short-term impacts would not interfere with emergency response vehicles (e.g., fire, police, or ambulance).

**Impact Determination**: The non-clustered scenario would require temporary construction activities that could interfere with emergency response and evacuation. However, the project design features and mitigation measures would reduce impacts to emergency access including providing OCFA approved turnouts (PDF-15), designs to minimize parking along the roadways which could interfere with emergency vehicle access (PDF-21), providing OCFA advance notice of construction activities (MM 3.7-1), requiring emergency opening gates approved by OCFA (MM 3.7-3), and would require fire access roads to be completed prior to issuance of building permits (MM 3.7-4).

**Impact 3.7.2:** Expose people or structures to wildland fires.

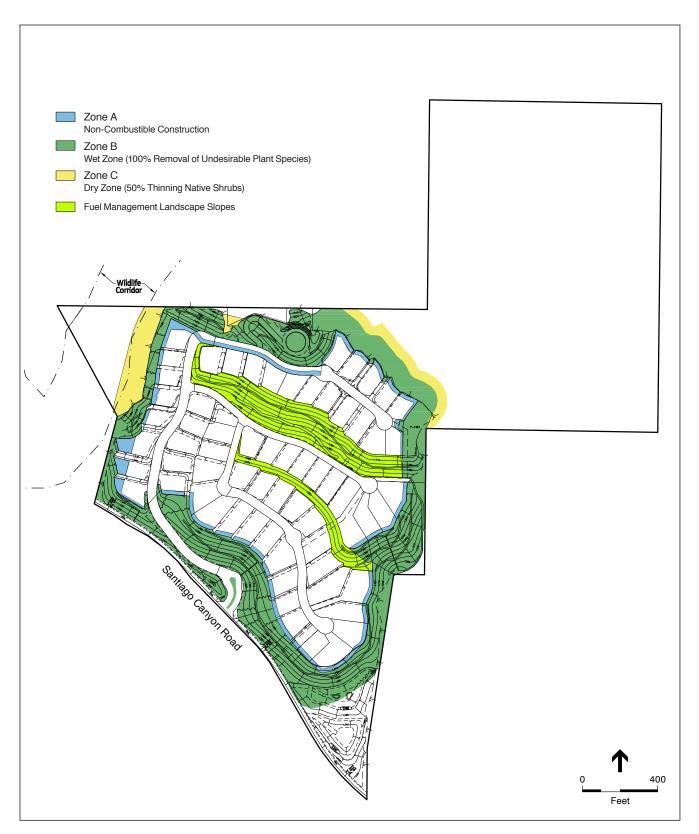
**Significance Standard for Impact 3.7.2:** Would the proposed project expose people and structures to a significant risk or loss, injury or death to wildland fires?

### **Proposed Project**

The project site is located within an area subject to high occurrences to wildfire. The regional natural vegetation in this area is highly prone to wildfires. A Fire Behavior Analysis Report (BEHAVE) was prepared for the proposed project (see Appendix H), and has been approved by OCFA. **Figure 3.7-2** identifies fuel modification zones of the project, the Fuel Modification Plan was prepared in compliance with the F/TSP regulations discussed above, and includes a Landscaping Plan, and details removal and planting strategies to achieve acceptable levels of safety. The BEHAVE demonstrates the best fire defense for the project.

The modeling shows that the measurable fuels are further away than the most extreme flame lengths that would be produced (FireSafe Planning Solutions, 2009). Through the use of the BEHAVE modeling, the proposed project's fuel modification zones would maximize protection for the proposed project and the surrounding areas, which would minimize the impact to the wildland fires.

The proposed project has homes clustered into a single defendable location, which would make fire protection easier and more effective. The modeling resulted in the development of a Precise Fuel Modification Plan (approved by the OCFA on January 28, 2010) and a Fire Master Plan (approved by the OCFA on January 11, 2010) for the project to ensure there are no direct interface areas in which a fire in the wildland areas would have an impact on the future structures and to ensure additional measures to fire safety and reduce any potential hazards that would result from wildfires. For safety of construction personnel, neighboring homes, and fire fighting safety in wildland areas, mitigation would require the project applicant to complete the necessary fire access roads in the area. In addition, development of the proposed project would require compliance with OCFA Guideline B-09 (Fire Master Plans for Commercial and Residential Development 2011) development designs and applicable provisions of the CFC standards set forth in Chapter 7A of the 2010 CBC as well as locally adopted ordinances. However, further mitigation would be required in order to reduce impacts related to wildland fire exposure to less than significant.



NOTE: Precise Fuel Modification Plan approved by OCFA on 1-11-10.

SOURCE: Hunsaker & Associates, 2012.

Saddle Crest Homes . 211454

Figure 3.7-2

Fuel Modification Plan

Project design features would reduce the impacts from wildland fires by providing OCFA turnouts (PDF-15), and developing a Precise Fuel Modification Plan in compliance with the F/TSP (PDF-16) to create a buffer between the residential areas and the adjacent open areas, installing automatic fire sprinklers in all homes (PDF-17), spacing fire hydrants more densely (PDF-18), and developing a Fire Master Plan with the approval of OCFA (PDF-19). The proposed project would be designed to cluster homes into a single defensible location to make fire protection more efficient (PDF-22). Additionally, mitigation measures have been included that would allow greater coordination with OCFA (MM 3.7-1), would secure an agreement with OCFA (MM 3.7-2), would require OCFA approved gates (MM 3.7-3), and would require fire access roads to be completed prior to building permit issuance (MM 3.7-4).

**Impact Determination:** The proposed project would result in increased exposure of people and structures to risk of wildland fires. Implementation of Mitigation Measures MM 3.7-1 through MM 3.7-4, as well as Project Design Features PDF-15 through PDF-19, and PDF-22, would reduce impacts to less than significant levels.

#### Non-Clustered Scenario

Similar to that described above for the proposed project, the non-clustered scenario would be required to comply with OCFA Fire Master Plan for Residential and Commercial Development, applicable provisions of the CFC, the 2010 CBC, and locally adopted ordinances. However, due the non-clustered scenario's sprawling layout which could result in more exposure to wildlands, the design could delay response times since the homes in this scenario would be located on large lots with significant acreage of non-contiguous open space which results in more exposure to wildland interface and creates more pockets of internal vegetation (OCFA Letter, 2010). Therefore, more exposure to wildland fires and the effects of wind and slope would make the homes more vulnerable to the effects of wildfire. In an event of a fire or other hazard, the nonclustered scenario could pose risk or loss, injury or death from wildland fires and impacts would be potentially significant. The Fire Master Plan and Precise Fuel Modification Plan could be fashioned in a way to be acceptable to the OCFA (OCFA Letter, 2010). According to the OCFA, concerning fire safety, the proposed project would be more efficient and effective than the nonclustered scenario since the homes in the proposed project are designed to maximize fire defense and fire safety. Although, the exposure to future homes in this development scenario would be greater when compared to the proposed project, due to the greater exposure to adverse conditions (e.g., wind, steep slopes, fuel loading, etc.), implementation of a Precise Fuel Modification Plan (PDF-16) and Fire Master Plan (PDF-19) would provide adequate protection to the residential development, although not as efficient as the proposed project. Adherence to the standards set forth in Chapter 7A of the 2010 CBC and in the County Service Code, as well as the implementation of an approved OCFA Fuel Modification Plan and Fire Master Plan, and implementation of Mitigation Measures MM 3.7-2, MM 3.7-3, and MM 3.7-4 would reduce wildfire-related impacts to a less than significant levels.

**Impact Determination:** The non-clustered scenario would result in increased exposure of people and structures to risk of wildland fires. Implementation of Mitigation Measures MM 3.7-1 though MM 3.7-4, as well as Project Design Features PDF-15 through PDF-19, would reduce impacts to

less than significant levels. However, due to the sprawling layout of the non-clustered scenario, impacts would be greater than those of the proposed project.

**Impact 3.7.3:** Include storm water best management practices that result in significant environmental effects.

**Significance Standard for Impact 3.7.3:** Would the proposed project include a new or retrofitted storm water treatment best management practice (e.g., water quality treatment basin, constructed treatment wetlands), the operation of which would result in significant environmental effects (e.g., increased vectors and odors)?

## **Proposed Project**

As discussed in Section 3.8, *Hydrology and Water Quality*, and in the Water Quality Master Plan (Appendix I), of this Draft EIR, the proposed project includes hydromodification detention basin (PDF-23) and a dry extended detention water quality basin (PDF-24) to retain runoff from the site. This could increase vectors and odors due to lack of adequate drainage and/or standing water (OCVCD, 2011). The basins will employ approved vector control measures (PDF-20), which would reduce impacts associated with vectors and odors by not providing adequate time for vectors to establish residence in the basin water; however, impacts are considered potentially significant. Implementation of Mitigation Measure MM 3.7-5 would require approval of the project's Water Quality Management Plan, Grading Plans, and Storm Drain Improvement Plans for vector control measures, which would ensure compliance with the OCVCD, and would mitigate impacts to less than significant.

**Impact Determination:** The proposed project would include BMPs that result in standing water that could increase to potential for vectors on-site, which is a significant impact. Implementation of Project Design Feature PDF-20 and Mitigation Measure MM 3.7-5 would reduce impacts to less than significant.

#### Non-Clustered Scenario

As discussed in Section 3.8, *Hydrology and Water Quality*, and in the Water Quality Master Plan (Appendix I), of this Draft EIR, the non-clustered scenario would require seven water quality basins to mitigate downstream drainage courses, which could increase vectors and odors due to lack of adequate drainage and/or standing water (OCVCD, 2011). These water quality basins will employ approved vector control treatment measures (PDF-20). In addition implementation of Mitigation Measure MM 3.7-5 would further ensure that impacts would be less than significant.

**Impact Determination:** The non-clustered scenario would require seven water quality basins that could result in standing water, increasing the potential for vectors on-site. Implementation of Mitigation Measure MM 3.7-5, and Project Design Feature PDF-20 would reduce impacts to less than significant.

## 3.7.6 Cumulative Impacts

The project site is located near an area that has a high fire hazard. For purposes of the cumulative analysis for hazards, the geographic area is considered to be the UAR District, which encompasses open space and developed areas. Projects within and near the UAR District are shown in Table 2.2 include Saddleback Meadows, Robinson Ridge, Crocker Property, Giracci Vineyard, Rancho Las Lomas, and St. Michael's Abbey at Holtz Ranch. The proposed project or the non-clustered scenario in conjunction with other development could also create or expose people to similar hazards. However, mitigation of potential hazards is regulated by federal, state and local requirements, and would be addressed on a case-by-case basis. Therefore, neither the proposed project nor the non-clustered scenario would result in cumulatively considerable impacts relative to hazards. In addition, like the proposed project and non-clustered scenario, many of the cumulative projects are located in high fire hazard areas and would, therefore, be required to implement fire master plans and fuel modification plans consistent with OCFA, CFC/IFC and CBC regulations. In addition, these projects would be evaluated on an individual basis to determine appropriate mitigation measures that would address potential impacts.

Compliance with Title 14, California Code of Regulations, Section 1270 regulations that govern the use of construction equipment in fire prone areas in addition to establishing recommendations for fire hazards would mitigate potential wildland fire risks on a project-by-project basis. Other projects in addition to the proposed project or non-clustered scenario would be required to provide planned coordination with OCFA (MM 3.7-1) to minimize the concurrent use of construction equipment in fire-prone areas from multiple projects. Therefore, cumulative fire hazard impacts associated with the proposed project or non-clustered scenario would be less than significant.

The proposed project and non-clustered scenario would include drainage improvements to minimize stormwater flows. However, these improvements would be designed to minimize standing water and reduce impacts associated with vectors and odor. Other projects in the vicinity would be required to provide similar protections. Therefore, the effect of the proposed project or non-clustered scenario on increased vectors or odor in combination with other past, present, and reasonably foreseeable projects would be less than significant.

**Impact Determination:** The proposed project and non-clustered scenario would not result in a significant contribution to hazard impacts within the cumulative area.

# 3.7.7 Mitigation Measures

- MM 3.7-1 At least three business days prior to any lane closure, the construction contractor shall notify Orange County Fire Authority of construction activities that would impede movement along roadways immediately adjacent to the project area, to allow for uninterrupted emergency access and maintenance of evacuation routes.
- MM 3.7-2 Prior to the issuance of grading permit, the project applicant shall enter into a Secured Fire Protection Agreement with Orange County Fire Authority.

- MM 3.7-3 All gates within the project shall include installation of emergency opening devices as approved by Orange County Fire Authority.
- MM 3.7-4 For the safety of construction personnel, neighboring homes, and firefighting safety in wildland areas, the project applicant, under the supervision of the Fire Chief, shall have completed the necessary portions of the fire access roads in the area prior to building permit issuance.
- MM 3.7-5 Prior to the issuance of any preliminary grading permits, the applicant shall provide evidence to the Manager, Permit Services, that the Vector Control District has surveyed the site and approved the project's Water Quality Management Plan, Grading Plans, and Storm Drain Improvement Plans for vector control measures.

# 3.7.8 Impact Determination

The proposed project and the non-clustered scenario would have similar impact determinations for hazards. Regarding Impact 3.7.1, the proposed project and non-clustered scenario would require temporary construction activities that could interfere with emergency response and evacuation. Mitigation Measure MM 3.7-1would reduce this impact to less than significant. Operation would introduce new internal access roads that would be required to meet emergency access standards. Mitigation Measure MM 3.7-2, and Project Design Features PDF-15 and PDF-21 would reduce operational impacts to less than significant.

The proposed project and non-clustered scenario would result in increased exposure of people and structures to risk of wildland fires (Impact 3.7.2). Implementation of Mitigation Measures MM 3.7-1 through MM 3.7-4, as well as Project Design Features PDF-15 through PDF-19, would reduce impacts to less than significant levels. In addition, the proposed project has been designed to cluster homes making fire protection more effective (PDF-22).

The proposed project and non-clustered scenario would include BMPs that result in standing water that could increase to potential for vectors on-site, which is a significant impact (Impact 3.7.3). Implementation of Mitigation Measure MM 3.7-5, and Project Design Feature PDF-20 would reduce impacts to less than significant.